## **ABSTRACT**

Novel diamondoid-based components that may be used in nanoscale construction are disclosed. Such components include rods, brackets, screws, gears, rotors, and impellers. Subassemblies (or subsystems) may comprise one or more diamondoid components. Exemplary subassemblies include atomic force microscope tips, molecular tachometers and signal waveform generators, and self-assembling cellular membrane pores and channels.

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